WHAT IS CLAIMED IS:

1. A piezoelectric actuator drive circuit comprising:

a charge/discharge circuit section for charging and discharging a piezo-stack mounted on a piezoelectric actuator;

a pair of positive and negative connection terminals connected to a current supply cable that extends to the piezo-stack; and

an abnormality detection circuit section for detecting a conduction abnormality of the current supply cable,

wherein the abnormality detection circuit section includes:

a voltage detection means for detecting a voltage at a non-ground side connection terminal out of the connection terminals; and

a comparison means for comparing a detected voltage with a reference voltage for supplying a comparison signal.

2. The piezoelectric actuator drive circuit according to claim 1, wherein the abnormality detection circuit section includes a counting means for counting a number of times when the detected voltage exceeds the reference voltage between a charge command and a discharge command of the piezo-stack.

3. The piezoelectric actuator drive circuit according to claim 2, wherein a binary counter that is capable of two-bit counting is employed as the counting means comprising a two-step D flip-flop circuits which are reset corresponding to the charge command.

4. The piezoelectric actuator drive circuit according to claim 3, wherein:

the comparison means has a structure for generating a first comparison signal that rises when the detected voltage exceeds the reference voltage and a second comparison signal having a phase inverse to the first comparison signal that rises up when the detected voltage falls down below the reference voltage;

the abnormality detection circuit section further includes an S-R flip-flop circuit having a set terminal which receives the first comparison signal as an input and having a reset terminal which receives the second comparison signal as an input;

an input value fixing means for fixing the input value of the set terminal or the reset terminal forcedly; and

the output signal of the S-R flip-flop circuit is supplied to the binary counter as the input signal.

5. The piezoelectric actuator drive circuit according to claim 4, wherein the set input value fixing means that fixes the input value of the set terminal of the S-R flip-flop circuit to "L" when the output of the binary counter changes to "H" is provided as the input value fixing means.

6. The piezoelectric actuator drive circuit according to claim 4, wherein the input value fixing means includes a reset input value fixing means that fixes the input value of the reset

terminal of the S-R flip-flop circuit to "L" when the discharge command is supplied as the input.

7. A fuel injection system comprising:

an injector that switches between injecting and stopping of fuel by opening or shutting a nozzle by means of the piezoelectric actuator; and

a piezoelectric actuator drive circuit for driving the piezoelectric actuator according to claim 1.